

Grade 6 Science Summary
AY 2017-2018 – Term 1

Chapter 5

The Big Idea: What gives a substance its unique identity?

Lesson 5.1 Matter and Its Properties

Essential Question: How do particles move in solids, liquids, and gases?

Success Criteria:

- Volume is the amount of space a sample of matter occupies.
- A solid is a state of matter with a definite shape and volume.
- Particles of a solid are close together and vibrate about a definite position.
- A liquid is a state of matter with a definite volume but not a definite shape.
- Particles of a liquid are close together and can slide past one another.
- A gas is a state of matter without a definite shape or a definite volume.
- Particles of a gas are very far apart and move freely within their container.

Essential Question: How are physical properties different from chemical properties?

Success Criteria:

- A physical property is a characteristic of matter that you can observe without changing the identity of the substances that make it up.
- Some physical properties of matter are mass, volume, density, solubility, melting and boiling point.
- Mass the amount of matter in an object.
- Density is the mass per unit volume of a substance.
- The formula for calculating density
 - $$D = \frac{\text{mass (in g)}}{\text{volume (in mL)}}$$
- Solubility is the ability of one material to dissolve into another.
- A Chemical Property is the ability of a substance to combine or change into one or more new substances.
- Some chemical properties of matter are flammability, and the ability to rust.

Essential Question: How are properties used to identify a substance?

Success Criteria:

- You can identify an unknown substance by comparing its properties to those of other known substances.
- Melting point and density are reliable physical properties used to identify an unknown substance.

Lesson 5.2 Matter and its Changes

Essential Question: How are physical changes different from chemical changes?

Success Criteria

- A Physical change is a change in the size, shape, form, or state of matter in which the identity of the matter stays the same.
- Examples of physical changes are dissolving, and changing state.
- A Chemical Change is a change in matter in which the substances that makes it up changes into other substances with different chemical and physical properties.
- Examples and signs of chemical changes are burning, the formation of gas, formation of precipitate, and color change.
- When two liquids react and form solid particles, this new solid is a precipitate.

- All chemical reactions involve energy changes.
- Thermal or light energy is often needed for a chemical reaction to take place, and is given off during the reaction.

Essential Question: How do physical and chemical changes affect mass?

Success Criteria:

- Physical and chemical changes do not affect the mass of a substance.
- The Law of Conservation of mass states that the total mass before a chemical reaction is the same as the total mass after the chemical reaction.

www.almanahj.com